International Standard 1798

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Polymeric materials, cellular flexible — Determination of tensile strength and elongation at break

Matériaux polymères alvéolaires souples — Détermination de la résistance à la traction et de l'allongement à la rupture

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Descriptors: flexible cellular materials, tests, tension tests, elongation at fracture, tensile strength.

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been authorized has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 1798 was developed by Technical Committee ISO/TC 45, *Rubber and rubber products*.

This second edition was submitted directly to the ISO Council, in accordance with clause 6.11.2 of part 1 of the Directives for the technical work of ISO. It cancels and replaces the first edition (i.e. ISO 1798-1976), which had been approved by the member bodies of the following countries:

Australia	Hungary	Sri Lanka
Austria	India	Sweden
Brazil	Israel	Switzerland
Canada	Italy	Turkey
Czechoslovakia	Netherlands	United Kingdom
Egypt, Arab Rep. of	New Zealand	USA
France	Poland	USSR
Germany, F.R.	South Africa, Rep. of	
Greece	Spain	

No member body had expressed disapproval of the document.

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Polymeric materials, cellular flexible — Determination of tensile strength and elongation at break

1 Scope and field of application

This International Standard specifies a method for determining the strength and deformation properties of flexible cellular material when a test piece is extended at a constant rate until it breaks.

2 References

ISO 1923, *Cellular plastics and rubbers — Determination of linear dimensions.*

ISO 5893, *Rubber and plastics test equipment — Tensile, flexural and compression types (constant rate of traverse) — Description.*[1)]

3 Definitions

For the purpose of this International Standard, the following definitions apply:

3.1 tensile strength: The maximum tensile stress applied during stretching a test piece to rupture.

3.2 elongation at break: The percentage elongation of a test piece at rupture.

4 Apparatus

Power-driven machine, complying with the following requirements:

— the rate of travel of the power-actuated grip shall be 500 ± 50 mm/min and shall be uniform at all times;

— the accuracy of the test machine shall conform to grade A of ISO 5893.

5 Test pieces

5.1 Direction of sampling

If the product shows a predominant direction of the cellular structure (orientation of the cells), the test pieces for the tensile test shall be taken in such a way that their longitudinal axes lie at right angles to this predominant direction. If this is not possible, the location of the longitudinal axis with respect to the predominant direction shall be stated in the test report.

5.2 Shape and dimensions

The test piece shall be rectangular in cross-section, without surface skin, and without visible defects. The tensile test pieces shall be cut with a test piece cutter in accordance with the figure and shall be 10 to 15 mm thick.

Dimensions in millimetres

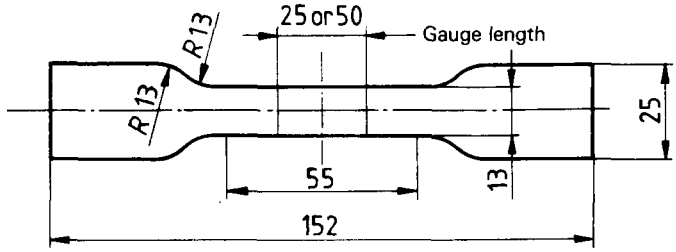

Figure — Test piece cutter

5.3 Number of test pieces

Five test pieces shall be tested.

5.4 Conditioning

Materials shall not be tested for at least 72 h after manufacture. Prior to the test, the material from which the test pieces are to

1) At present at the stage of draft.